

“Curriculum Review & Update”



**Educational Programming Committee
September 21, 2011**

Our District Goals for this Year

- Develop a culture of voice and choice in the classroom.
- Increase our students' knowledge and understanding of their learning goals/targets.
 - “What are you learning?”
 - “How will you know you learned it?”
 - “What will you do next?”

Learning Goals for Staff

- 1st Half of the Year:
 - Develop a better understanding of the draft curriculum. Make sure you can retrieve and use parts of the curriculum.
 - Provide feedback on the draft documents during the whole year.
 - The goal is to have the draft curriculum fully adopted by this Spring (2012) and fully implemented in the Fall of 2012.

Learning Goals for Staff

- 2nd Half of the Year
 - We will build a RSU 18 Model of Instruction
 - In March we will provide training on our Model of Instruction.
 - This will integrate our instructional language, literacy strategies, literacy agreements, etc.
- Throughout the Year
 - Offer more Beacon Training
 - Continue to support pilot teachers
 - Offer more training on unit development

THE CONTEXT...BIG PIX



The RISC philosophy is implemented through four interrelated elements:

Shared Vision
Standards-Based Design ★
Leadership
Continuous Improvement

STANDARDS-BASED EDUCATION

PERFORMANCE-BASED EDUCATION

MASS CUSTOMIZED LEARNING

Where can the Curriculum Documents be found????

rsu18.org/dropbox

WHAT WORKS IN SCHOOLS

School



Guaranteed & Viable Curriculum

- 4. Safe & Orderly Climate
- 5. Staff Collegiality & Professionalism

Teacher



- 6. Instruction
- 7. Classroom Management
- 8. Curriculum Design

Student



- 9. Home Atmosphere
- 10. Learned Intelligence and Prior Knowledge
- 11. Motivation & Interest

THE RESEARCH ON FEEDBACK

John Hattie

(reviewed 7,827 studies on learning and instruction)

Conclusion... “The most powerful single innovation that enhances achievement is feedback. The simplest prescription for improving education must be ‘dollops’ of feedback.”

...reported that providing students with specific information about their standing in terms of particular objectives increased their achievement **SIGNIFICANTLY!!!!**

Like most things in education, classroom assessment enhances student achievement under certain conditions only (Marzano)

The Conditions (hmm – criteria):

1. Feedback from classroom assessments should provide students with a clear picture of:

- * their progress on learning goals, and**
- * how they might improve**

2. Feedback from classroom assessment should encourage students to improve.

3. Classroom assessment should be formative in nature.

4. Formative classroom assessments should be quite frequent.

Condition # 1

Feedback from classroom assessments should provide students with a clear picture of:

- their progress on learning goals,
and
- how they might improve

Curriculum

Assessment

Grading

Instruction

*...
unpacking
the
standards;
curriculum
in scoring
scale format*

*...designing
assessment
items for
levels 4, 3,
and 2 in the
scoring
scale*

*.....giving
feedback to
students
using a
formative
approach*

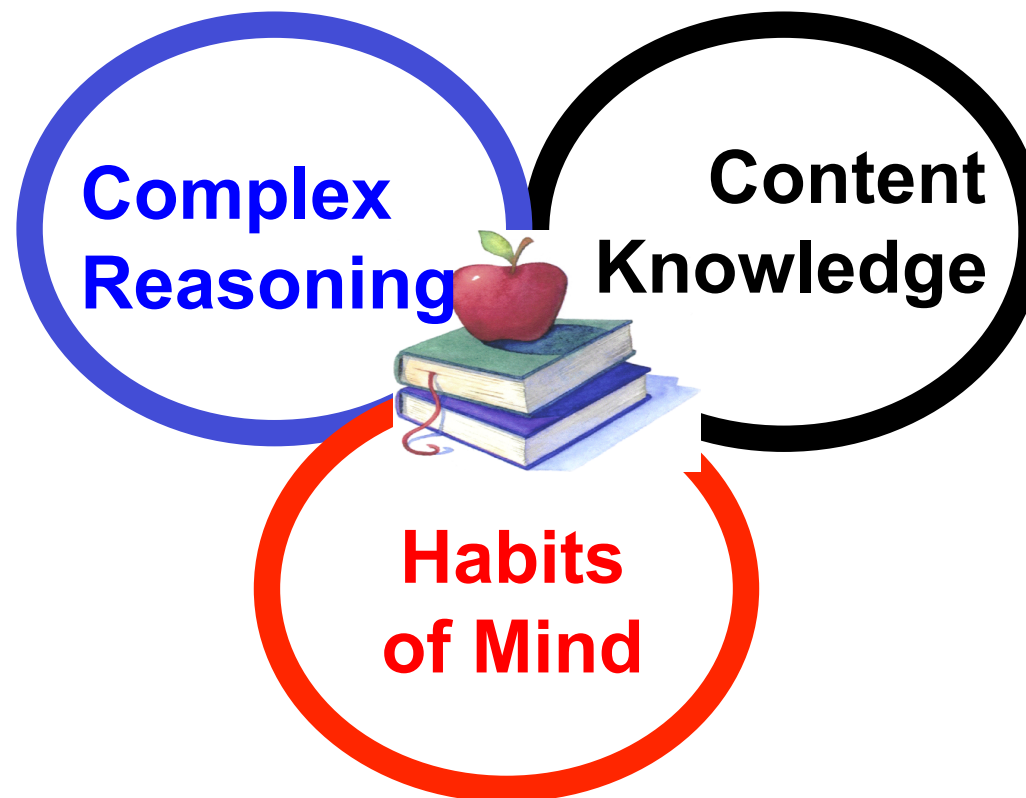
*....having a
common
language of
instruction
&
monitoring
effective
instruction*

The Structure or Delivery System

MODEL OF CURRICULUM

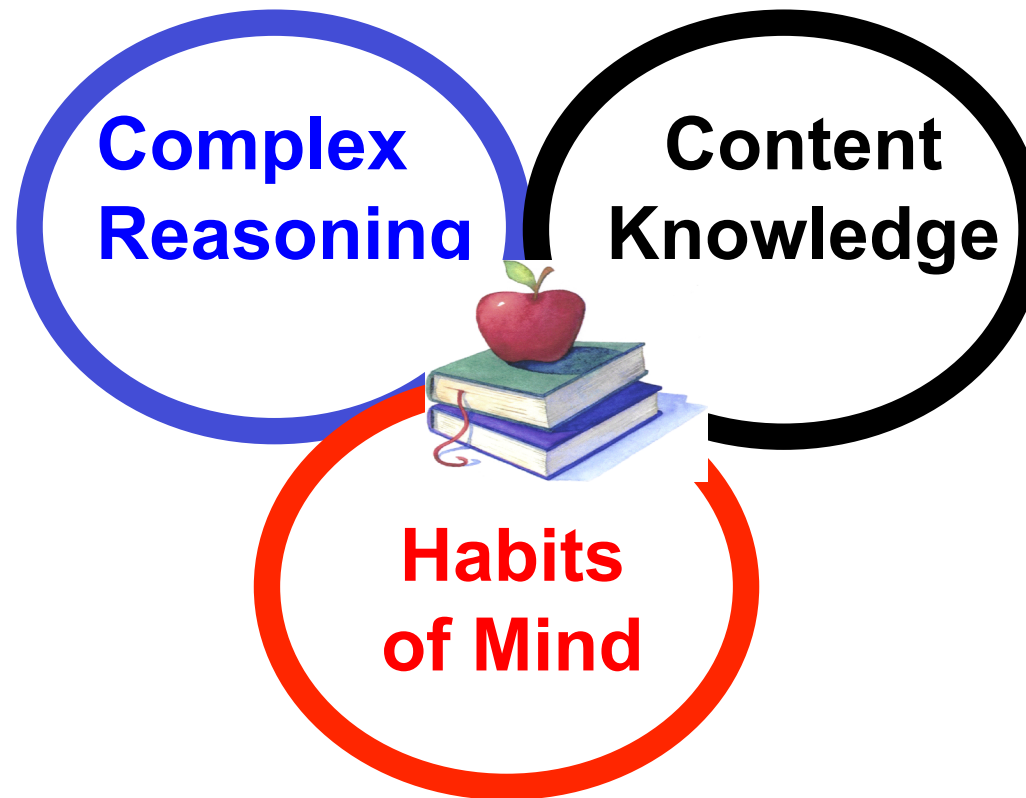
We want learners to be:

doing these reasoning processes with this content knowledge



to practice getting better at these life-long learning habits

A Model of Curriculum



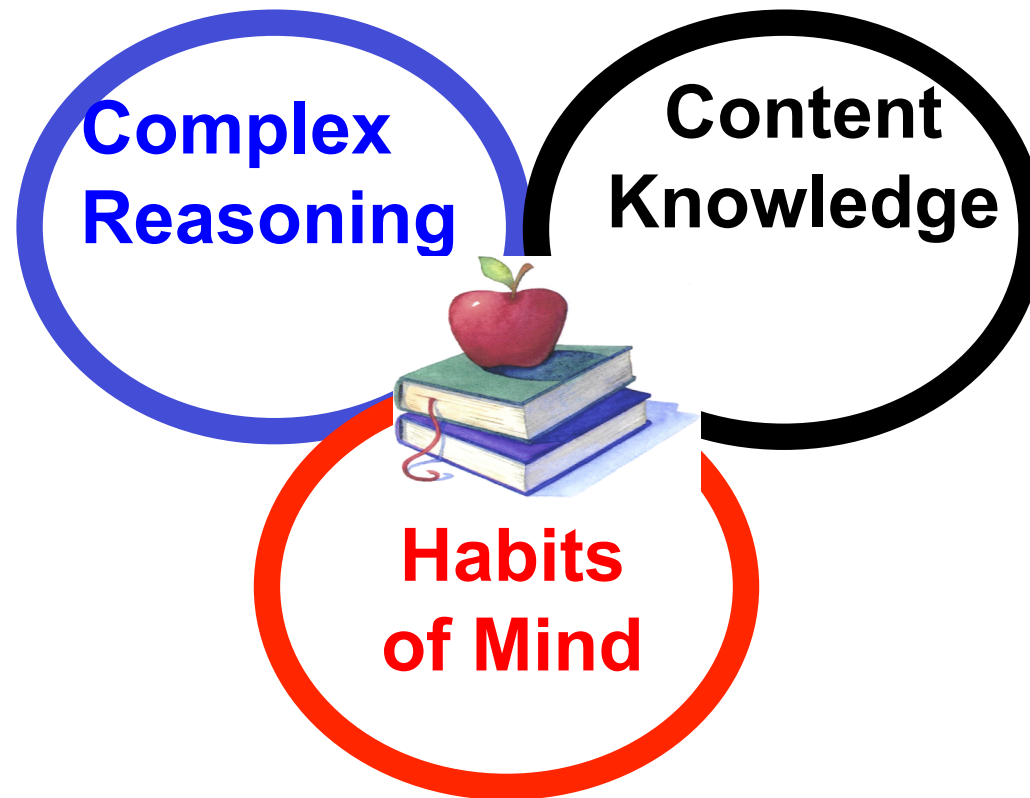
A Model of Curriculum

Complex Reasoning



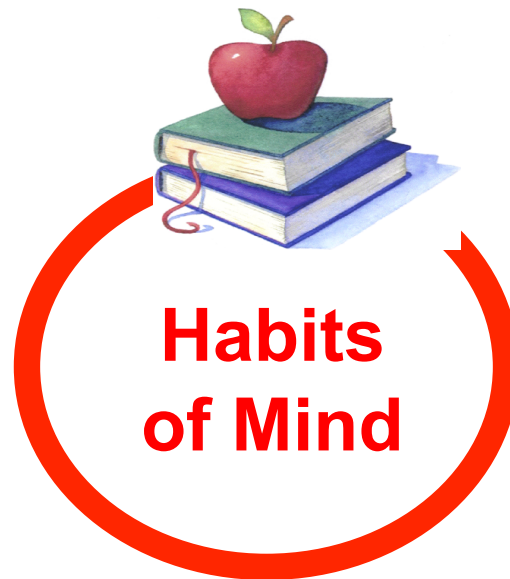
Comparing
Classifying
Abstracting
Constructing Support
Analyzing Perspectives
Analyzing Errors
Inductive Reasoning
Deductive Reasoning
Investigating
Inventing
Problem Solving
Decision Making
Experimental Inquiry

A Model of Curriculum

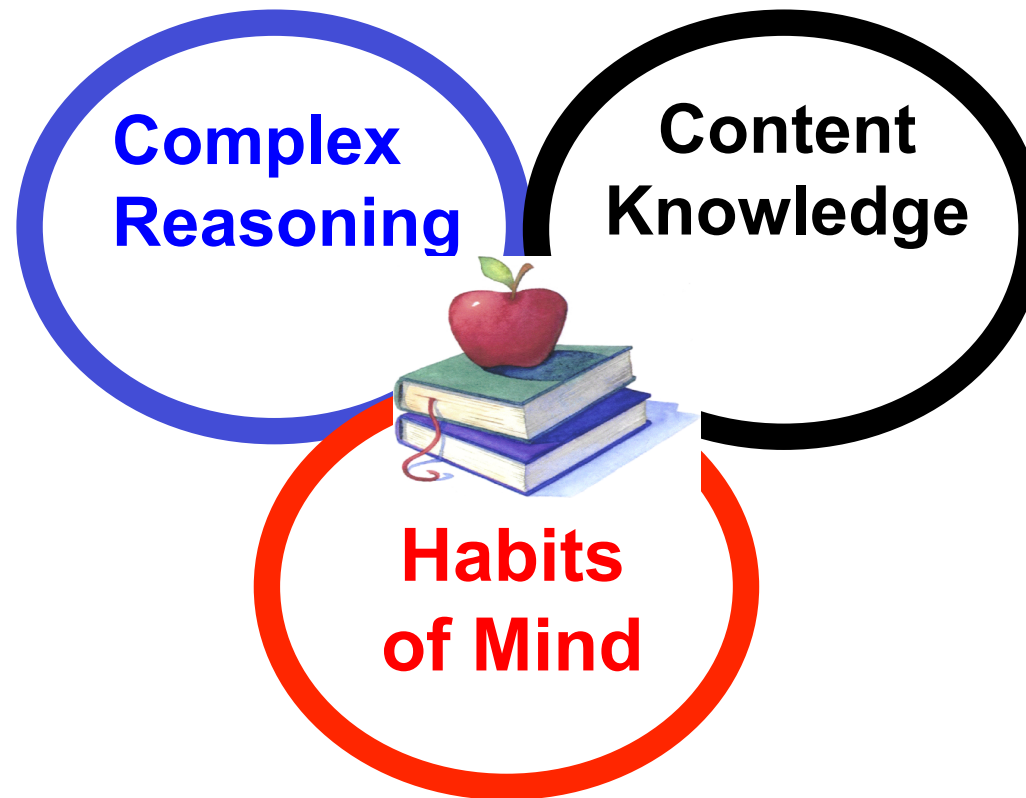


A Model of Curriculum

Quality Producer	Etc.
Self Directed Learner	Etc.
Involved Citizen	Etc.



A Model of Curriculum



A Model of Curriculum

SOCIAL STUDIES STRANDS:

Geography

US History

World History

Government

US

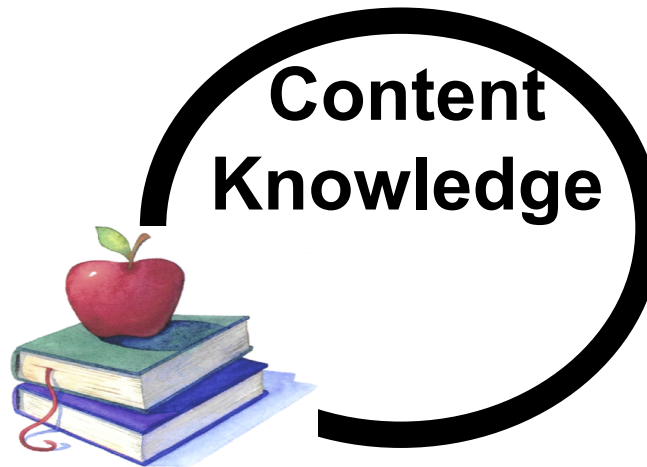
Government

Civics

Economics

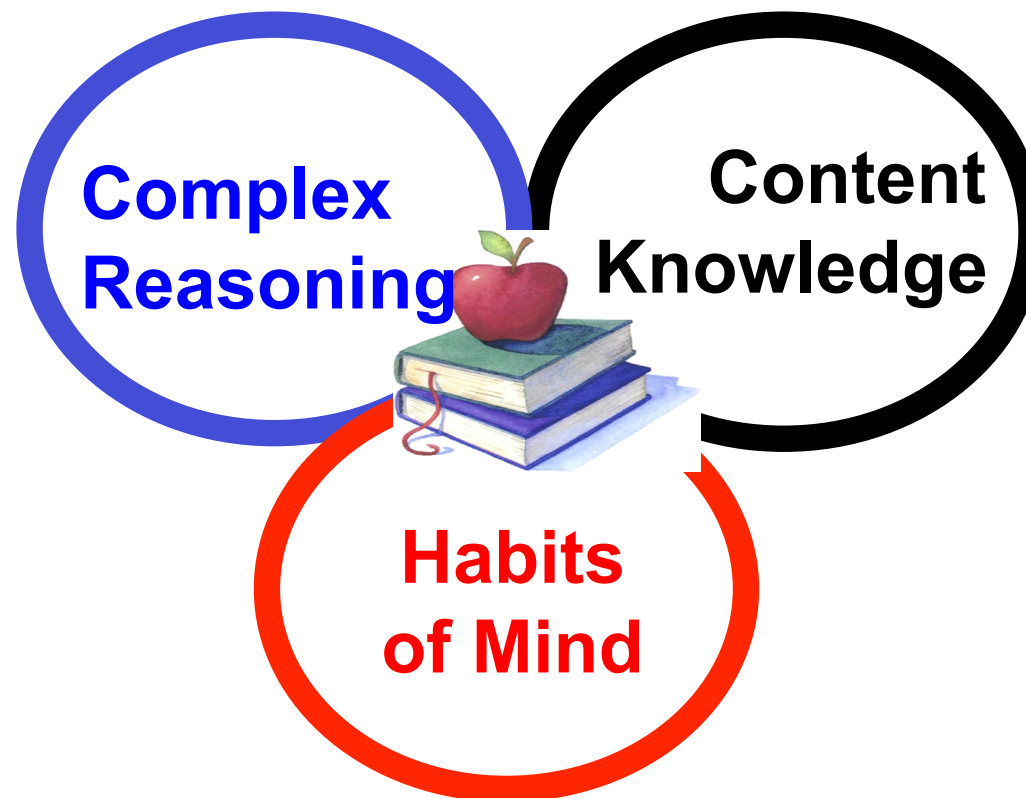
Cultures

Maine Studies



We want learners to be:

doing these reasoning processes with this content knowledge



to practice getting better at these life-long learning habits

PBE and CURRICULUM DESIGN

Levels of Curriculum Design (Unpacking)

Making Standards Useful



National/State Level:
Standards.....Benchmarks.....
Themes



District Level:
Measurement Topics in Scoring Scale
Format



Classroom Level:
Capacity Matrices



MEASUREMENT TOPICS

Marzano:

“....articulating measurement topics makes it easier to develop formative classroom assessments. It also clearly delineates what teachers are to address from one grade level to the next.”

Reporting Students' Progress



Measurement topics need to include life skills (e.g., participation, work completion, behavior, working in groups).

CONTENT AREA	STANDARD/ STRAND	MEASUREMENT TOPIC
Mathematics	Operations	Addition & Subtraction
Mathematics	Operations	Multiplication & Division
Mathematics	Number Sense	Counting & Cardinality
Mathematics	Number Sense	Place Value
Mathematics	Number Sense	Fractions
Mathematics	Measurement & Data	Measurement & Data
Mathematics	Geometry	Geometry
Mathematics	Statistics & Probability	Statistics & Probability
Mathematics	Number & Quantity	The Number System
Mathematics	Number & Quantity	Real Number System
Mathematics	Number & Quantity	Quantities
Mathematics	Number & Quantity	Complex Number System
Mathematics	Number & Quantity	Vector & Matrix Quantities
Mathematics	Algebra	Expressions and Equations
Mathematics	Algebra	Structure in Expressions
Mathematics	Algebra	Polynomials & Rational Exprs

CONTENT AREA	STANDARD/ STRAND	MEASUREMENT TOPIC
Reading	Foundations	Print Concepts
Reading	Foundations	Phonological Awareness
Reading	Foundations	Phonics
Reading	Foundations	Word Recognition
Reading	Foundations	Fluency
Reading	Literature	Plot Development
Reading	Literature	Theme
Reading	Literature	Character Development
Reading	Literature	Structure of Text
Reading	Literature	Use of Language
Reading	Literature	Point of View
Reading	Informational	Central Idea
Reading	Informational	Academic Vocabulary
Reading	Informational	Text Features
Reading	Informational	Text Structures
Reading	Informational	Point of View
Reading	Informational	Author's Reasoning

CONTENT AREA	STANDARD/ STRAND	MEASUREMENT TOPIC
Science	Nature of Science	Inquiry
Science	Nature of Science	Science & Technology
Science	Nature of Science	History & Research
Science	Life Science	Organisms
Science	Life Science	Ecosystems
Science	Life Science	Human Body Systems
Science	Life Science	Cells
Science	Life Science	Heredity
Science	Life Science	Reproduction
Science	Physical Science	Matter
Science	Physical Science	Force and Motion
Science	Physical Science	Chemical Reactions
Science	Energy	Light
Science	Energy	Heat
Science	Energy	Electricity
Science	Energy	Magnetism
Science	Earth and Space	Structure & Properties of Earth

CONTENT AREA	STANDARD/ STRAND	MEASUREMENT TOPIC
Social Studies	Geography	US Regions
Social Studies	Geography	World Geography
Social Studies	Geography	Maps & Tools
Social Studies	Geography	Migration
Social Studies	Geography	Cultural Regionalization
Social Studies	US History	Colonization
Social Studies	US History	Revolution
Social Studies	US History	Birth of a Nation
Social Studies	US History	Westward Expansion
Social Studies	US History	Civil War/Sectionalism
Social Studies	US History	Industrial Revolution
Social Studies	US History	Reforms
Social Studies	US History	New Deal/WWII
Social Studies	US History	Post War/Cold War
Social Studies	US History	Vietnam Era
Social Studies	US History	1980-2000
Social Studies	US History	21st Century

THE “SCOPE” of a MEASUREMENT TOPIC

STRAND: Number Sense

MEASUREMENT TOPIC: Place Value

	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4
4 <i>In addition to the 3. 0 knowledge, infers or applies</i> BEYOND WHAT WAS TAUGHT				
3 <i>No major errors or gaps in the</i> TARGETED, COMPLEX KNOWLEDGE	Understands the concept of place value for numbers 1-19	Understand that the two digits of a two-digit number represent amounts of tens and ones	Understands that the three digits of a three-digit number represent amounts of hundreds, tens, and ones	Understands the concept of rounding whole numbers to the nearest 10 or 100
2 <i>No major errors or gaps in the</i> SIMPLER, FOUNDATIONAL KNOWLEDGE	Knows the terms: tens place, ones place	Knows 10 can be thought of as a bundle of ten ones - called a "ten" Knows the numbers from 11-19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones Knows the numbers 10, 20, 30, 40, 60, 70, 80, 90 refer to one.....nine tens and zero ones	Knows that 100 can be thought of as a bundle of ten tens - called a "hundred" Knows the numbers 100....900 refer to one, two.....nine hundreds and zero tens and zero ones Knows the symbols of and meanings of the following: $>$, $=$, $<$	Knows the term: rounding Knows from memory multiplication of a number by multiples of 10

	LEVEL 5	LEVEL 6		
4 <i>In addition to the 3.</i> <i>0 knowledge,</i> <i>infers or applies</i> BEYOND WHAT WAS TAUGHT				
3 <i>No major errors</i> <i>or gaps in the</i> TARGETED, COMPLEX KNOWLEDGE	Understands place value for multi-digit whole numbers Understands the relationship between place value and the properties of operations	Understand the place value system: that a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left		
2 <i>No major errors</i> <i>or gaps in the</i> SIMPLER, FOUNDATIONA L KNOWLEDGE	Knows the rules for rounding multi- digit whole numbers to any place	Knows the patterns in the number of zeroes in the product when multiplying a number by powers of 10.		

THREE WAYS TO DEFINE THE SCOPE OF COMPLEXITY OF CONTENT KNOWLEDGE WITHIN A MEASUREMENT TOPIC

1. The **CONTENT** is increasingly more complex.

Is skilled at one digit multiplication
Is skilled at two digit multiplication with regrouping

- 2 The content is in increasingly more complex **CONTEXTS**.

Understands theme (Charlotte's Web)
Understands theme (Bridge to Terabethia)
Understands them (Scarlet Letter)

3. The **CONTENT** is increasingly more complex **AND** is in more complex **CONTEXTS**.

Understands the role of rules in their classroom
Understands the role of the US Constitution in balancing federal authority and states' rights
Understands the impact of the US Constitution on current issues and events

MARZANO'S GENERIC SCALE

4	
3	
2	



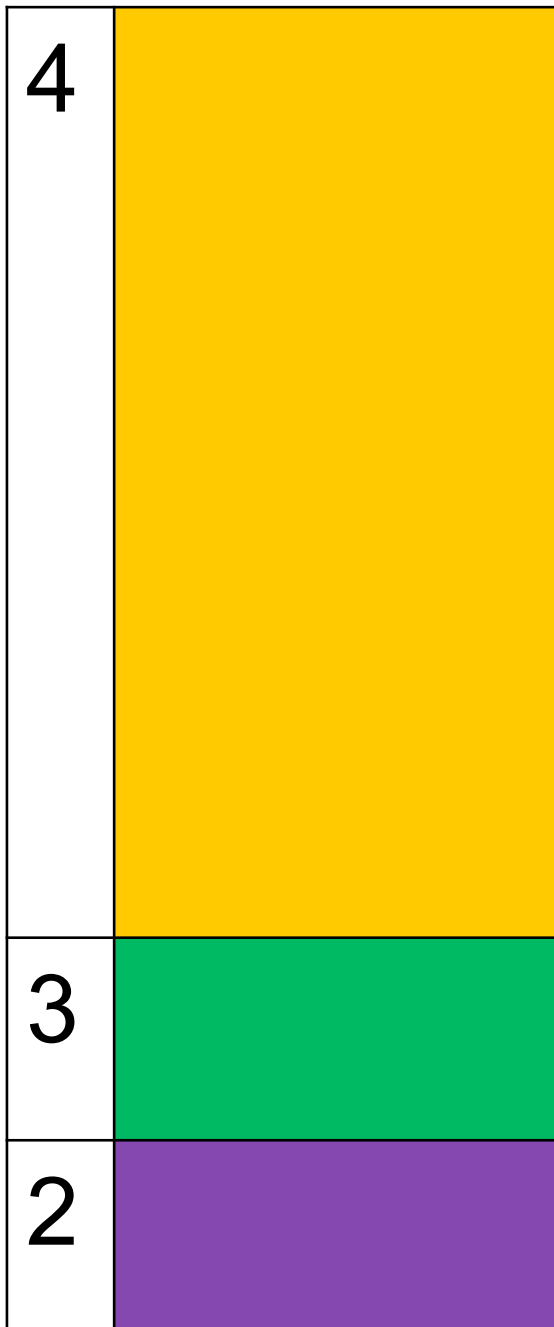
COMPLEX TARGETED KNOWLEDGE

DK: concepts, principles
PK: skills/processes

SIMPLER FOUNDATIONAL KNOWLEDGE

*necessary for achieving the
Targeted Knowledge*

DK: terms, details
PK: skills/processes



Even more
complex content related to
the topic

or

The Level 3 Knowledge at a
higher level of processing

or

Help a classmate go from a
Level 1 to Level 2 or
from Level 2 to Level 3

4	
3	COMPLEX TARGETED KNOWLEDGE DK: concepts, principles PK: skills/processes
2	SIMPLER FOUNDATIONAL KNOWLEDGE <i>necessary for achieving the Targeted Knowledge</i> DK: terms, details PK: skills/processes
1	<i>With help, has the</i> SIMPLER FOUNDATIONAL KNOWLEDGE
0	<i>Even with help, does not have the</i> SIMPLER FOUNDATIONAL KNOWLEDGE

4
Advanced

3
Proficient

**COMPLEX TARGETED
KNOWLEDGE**

DK: concepts, principles
PK: skills/processes

2
Developing

**SIMPLER FOUNDATIONAL
KNOWLEDGE**

*necessary for achieving the Targeted
Knowledge*

Emerging

DK: terms, details
PK: skills/processes

1

With help, has the
**SIMPLER FOUNDATIONAL
KNOWLEDGE**

0

Even with help, does not have the
SIMPLER FOUNDATIONAL

MEASUREMENT TOPICS IN SCORING SCALE FORMAT

- ☑ COMPLEX KNOWLEDGE
- ☑ SIMPLE (*but important*) KNOWLEDGE

(Make Them Useful!)

Measurement Topics in SCORING SCALE FORMAT

TOPIC: *Atmospheric Processes & Water Cycle*

TARGETED

3

DK: concepts,
generalizations,
principles

An understanding of:

- How the water cycle processes (condensation, precipitation, surface run-off, percolation, evaporation) impact climate changes
- The effects of temperature & pressure in different layers of Earth's atmosphere

FOUNDATIONAL

2

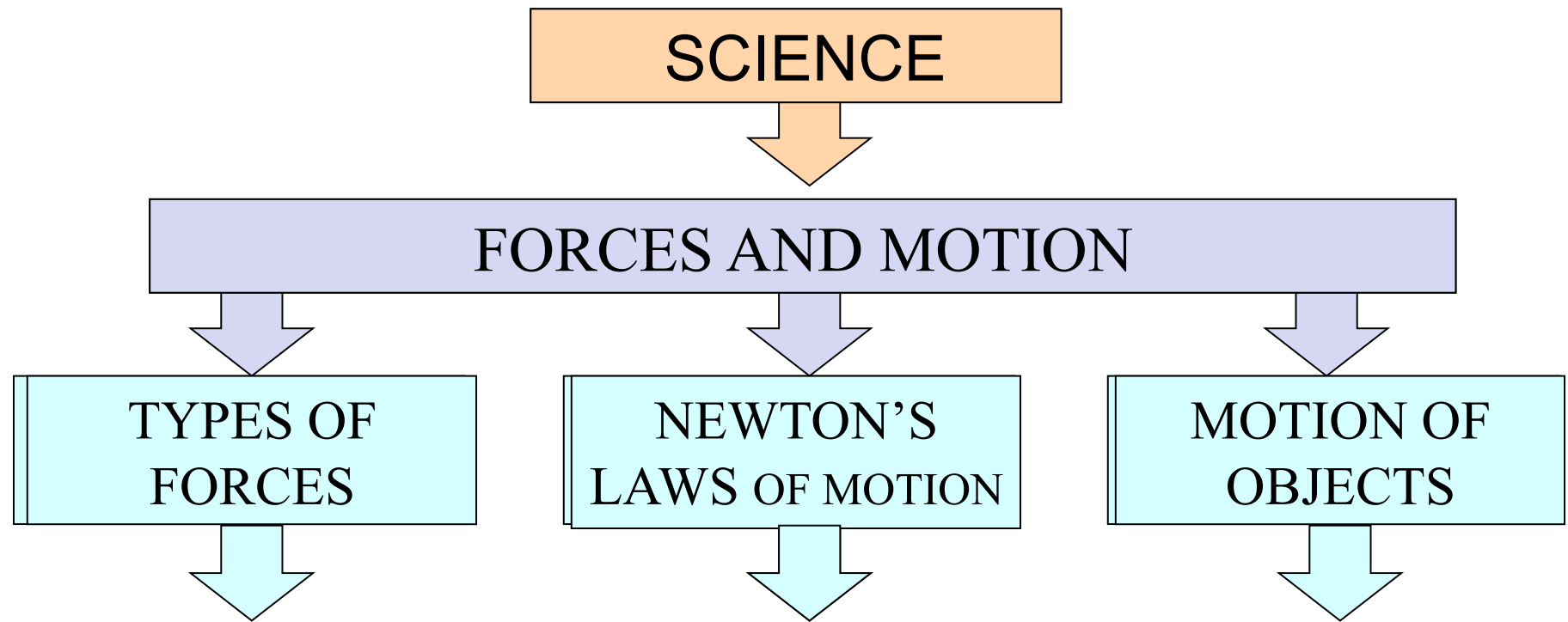
DK: terms and
details

Knows the following terms:

climactic patterns, atmospheric layers, stratosphere, troposphere

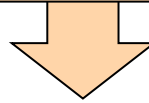
Knows the following details:

- Precipitation is one of the processes of the water cycle
- The troposphere is one of the lowest portions of the earth's atmosphere

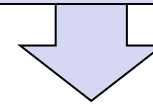
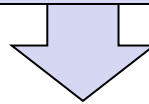
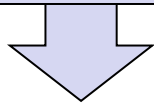


- 3** - Understands how the acceleration of moving objects is affected by the amount of the net force applied and the mass of the object
- Understands the effects of balanced or unbalanced forces and the motion (or lack of) they cause
- 2** - Knows the following terminology:
- balanced - motion - unbalanced forces
 - Knows Newton's Laws of Motion
 - Knows that motion is caused by unbalanced forces

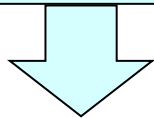
CONTENT AREA



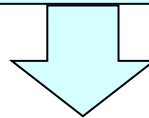
CONTENT STANDARDS or STRAND



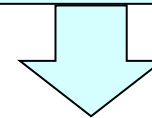
MEASUREMENT
TOPIC



MEASUREMENT
TOPIC



MEASUREMENT
TOPIC



4 *Learning Targets*

3 *Learning Targets*

2 *Learning Targets*

4 *Learning Targets*

3 *Learning Targets*

2 *Learning Targets*

4 *Learning Targets*

3 *Learning Targets*

2 *Learning Targets*

SCIENCE

```
graph TD; A[SCIENCE] --> B[FORCES AND MOTION]; B --> C[TYPES OF FORCES]; B --> D[NEWTON'S LAWS OF MOTION]; B --> E[MOTION OF OBJECTS]; C --> F[3 - Understands how the acceleration of moving objects is affected by the amount of the net force applied and the mass of the object]; C --> G[2 - Knows the following terminology: balanced, motion, unbalanced forces]; D --> F; D --> G; E --> F; E --> G;
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FORCES AND MOTION

TYPES OF FORCES

NEWTON'S LAWS OF MOTION

MOTION OF OBJECTS

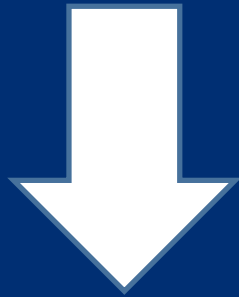
- 3** - Understands how the acceleration of moving objects is affected by the amount of the net force applied and the mass of the object
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- 2** - Knows the following terminology:
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Scope of Measurement Topics for MATHEMATICS

#	CONTENT AREA	STRAND	MEASUREMENT TOPIC	NUMBER OF LEVELS OF THE SCOPE & SEQUENCE OF THE MEASUREMENT TOPIC											
				1	2	3	4	5	6	7	8	9	10	11	12
	Mathematics	Operations	Addition & Subtraction	x	x	x	x								
	Mathematics	Operations	Multiplication & Division	x	x	x	x	x	x	x					
	Mathematics	Number Sense	Counting & Cardinality	x	x										
	Mathematics	Number Sense	Place Value	x	x	x	x	x	x	x					
	Mathematics	Number Sense	Fractions, Decimals, Percents	x	x	x	x	x	x	x	x	x			
	Mathematics	Number & Quantity	Number Systems	x	x	x	x	x	x	x	x				
	Mathematics	Geometry	Attributes & Properties 2D & 3D	x	x	x	x	x	x	x	x	x	x	x	
	Mathematics	Geometry	Geometric Measurement	x	x	x	x	x	x	x	x				
	Mathematics	Geometry	Coordinate System	x	x	x									
	Mathematics	Algebra	Expressions and Equations	x	x	x	x	x	x	x	x	x	x		
	Mathematics	Algebra	Foundational Algebra	x	x	x									
	Mathematics	Algebra	Interpreting functions	x	x	x	x	x							
	Mathematics	Algebra	Building Functions	x	x	x									
	Mathematics	Statistics/Probability & Measurement	Measurement	x	x	x	x	x	x						
	Mathematics	Statistics/Probability & Measurement	Data Analysis	x	x	x	x	x	x	x	x				
	Mathematics	Statistics/Probability & Measurement	Inferences	x	x										
	Mathematics	Statistics/Probability & Measurement	Probability	x	x	x									
	Mathematics	Number System	Matrix Quantities (acceleration)												
	Mathematics	Functions	Building Functions												
	Mathematics	Functions	Linear, Quadratic, Exponential Models												
	Mathematics	Functions	Trigonometric Functions												

TYPES OF KNOWLEDGE



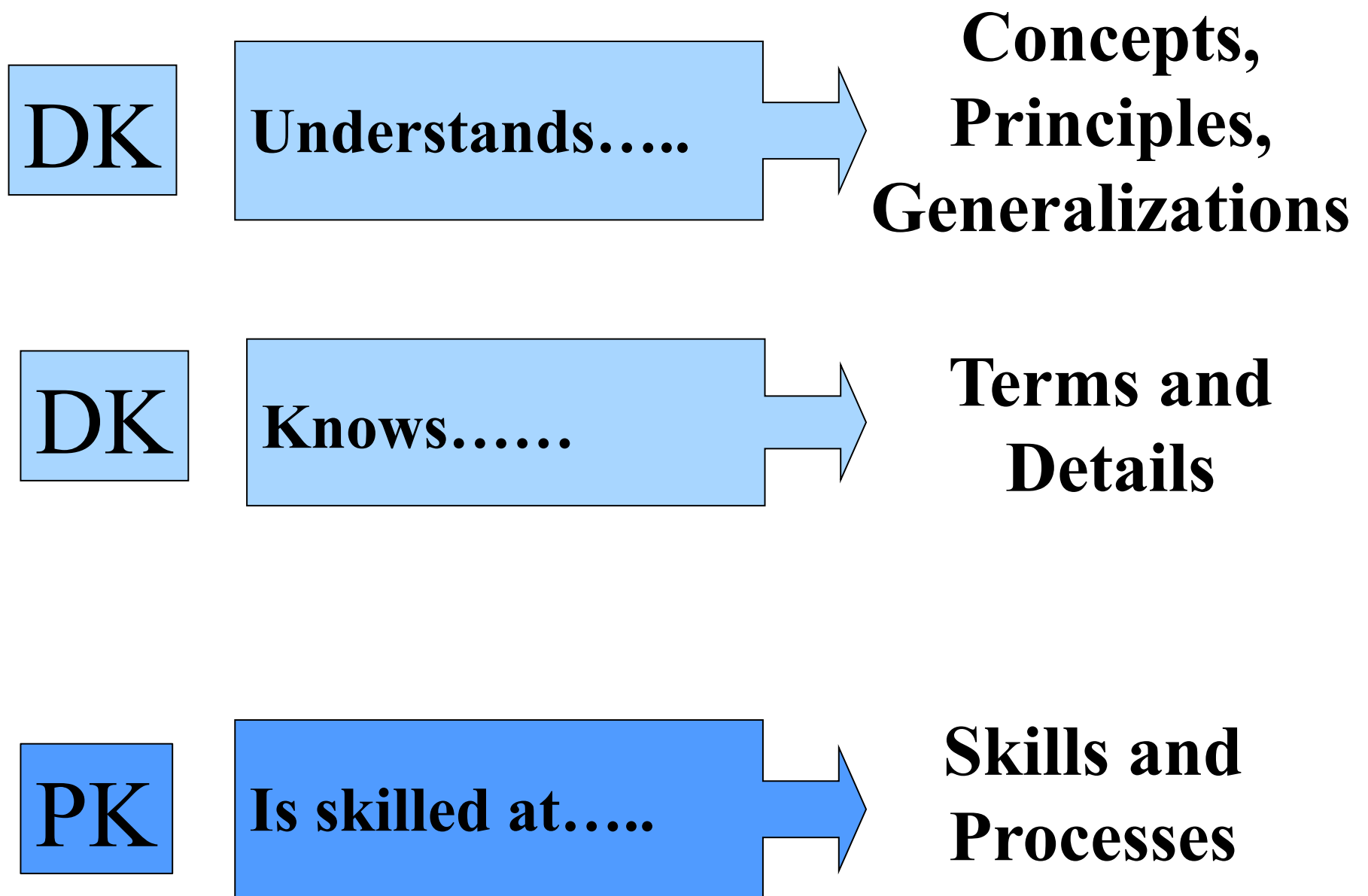
DECLARATIVE KNOWLEDGE

concepts, principles
terms, details



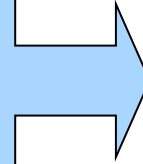
PROCEDURAL KNOWLEDGE

(mental or psychomotor)
skills, processes



DK

Knows.....



Terms and Details

(vocabulary, people, facts,
places, events, titles, etc.)

Chastise means....

Mitosis is.....

George Washington was....

World War II was started...

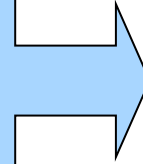
Shakespeare wrote....

A symphony is...

*Simple, but Important
(explicitly taught!)*

DK

Understands.....



**Concepts,
Principles,
Generalizations**

Topography and natural resources influence the culture of a region.

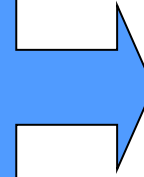
Animals have characteristics that are examples of adaptation.

Equations and graphs are both ways of depicting relationships among variables.

**Complex
(explicitly taught!)**

PK

Is skilled at.....



**Skills and
Processes**

Reading a bar graph

Writing to convey meaning

Reading with comprehension

*Adding whole numbers and
fractions*

Finding absolute location on a map


*Simple, but Important
& Complex
(explicitly taught!)*

The Cognitive System

ACQUIRING KNOWLEDGE


DECLARATIVE KNOWLEDGE

*facts, details,
concepts, principles*

- 
1. **Construct Meaning**
 2. **Organize**
 3. **Store**

PROCEDURAL KNOWLEDGE

*skills
processes*

- 
1. **Construct Models**
 2. **Shape**
 3. **Internalize**

CURRICULUM

(Knowledge identified in Scoring Scale Format)



DK

Understands.....
*(concepts,
generalizations, principles)*

DK

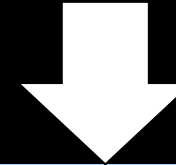
Knows.....
(terms and details)

PK

Is skilled at.....
(skills & processes)

ASSESSMENT ITEMS

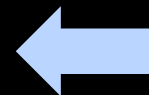
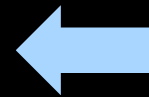
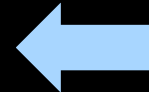
(Written for each bullet in Curriculum)



*As a result of
understanding(concepts,
generalizations, principles)*
The student is able to:

*As a result of knowing
(terms and details)*
The student is able to:

*As a result of being skilled at
(skills and process)*
The student is able to:



3 PARTS TO THE SCALE

UNPACKING STANDARDS and DESIGNING ASSESSMENTS

4			
3	The <u>KNOWLEDGE</u> to learn and demonstrate	The <u>LEVEL OF PROCESSING</u> the Identified Knowledge (Taxonomy Level; Reasoning Process)	The <u>ASSESSMENT ITEMS</u> for demonstrating the Identified Knowledge at the Identified Level of Processing
2			

PBE and ASSESSMENT DESIGN

MARZANO'S TAXONOMY OF LEARNING

Declarative Knowledge

Info

- *Facts,
Details*
- *Organizing
Ideas*

Learning

Procedural Knowledge

Skills Processes

- *Mental*
- *Psychomotor*

Declarative Knowledge

Info

- *Facts,
Details*
- *Organizing
Ideas*

*Learning =
processing
that
knowledge*

Procedural Knowledge

Skills Processes

- *Mental*
- *Psychomotor*

Levels of Processing (or Learning) the Knowledge

The Cognitive System

Declarative Knowledge

Info

- Facts, Details
- Organizing Ideas

Learning =
Using K.
Analyzing K.
processing
that
Retrieving K.
knowledge

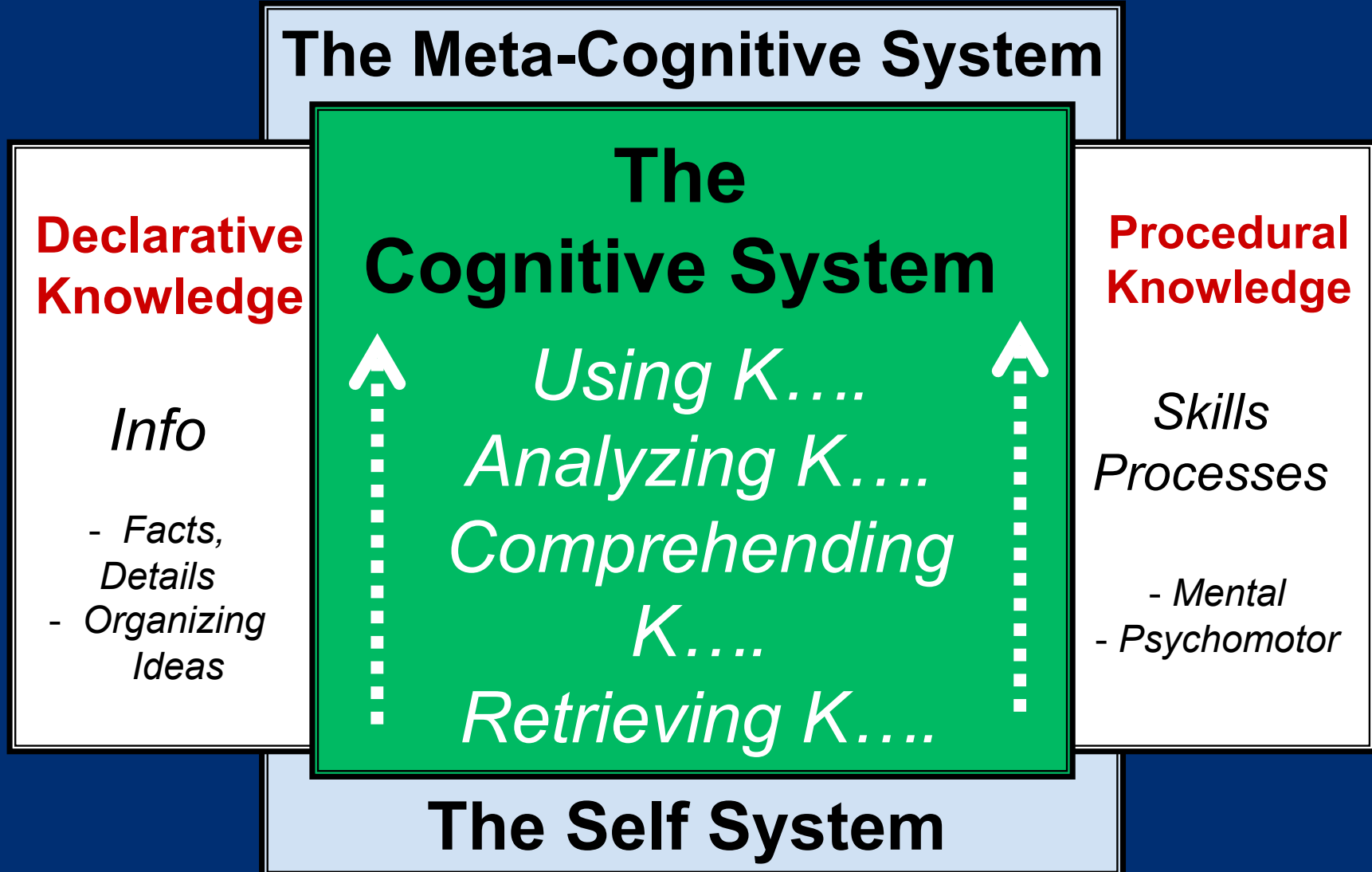
Procedural Knowledge

Skills Processes

- Mental
- Psychomotor

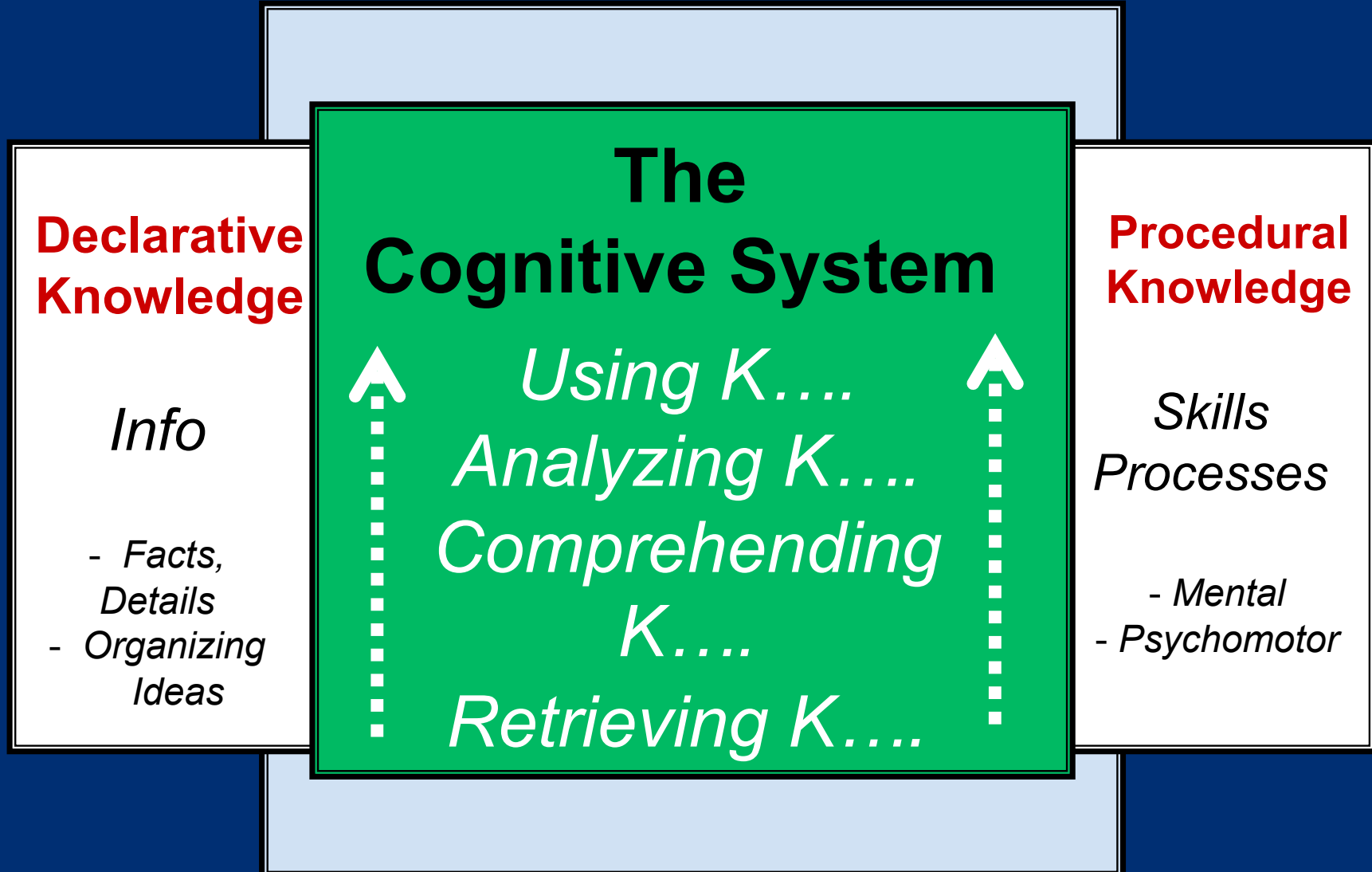
Marzano's Taxonomy!

Levels of Processing (or Learning) the Knowledge



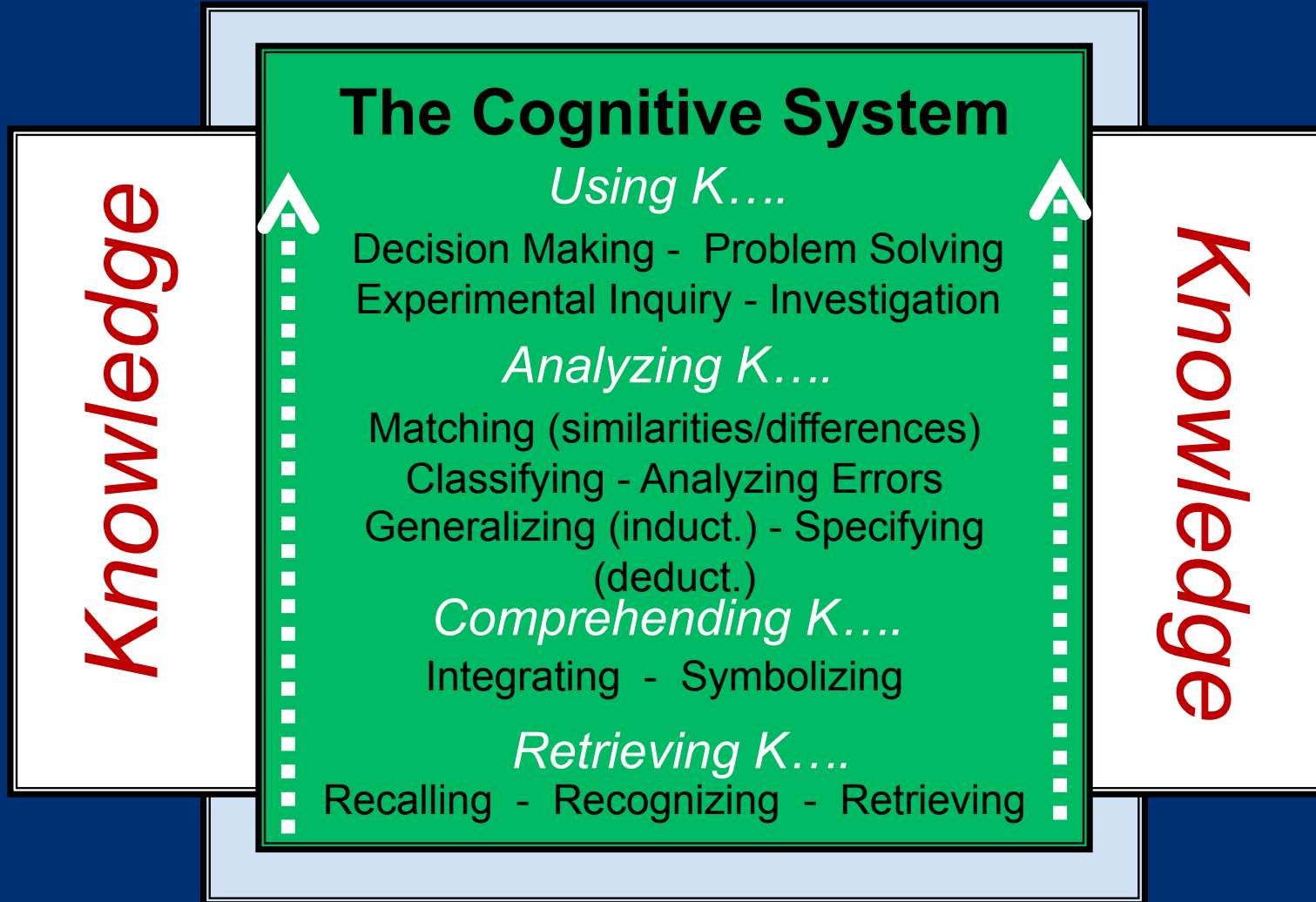
Marzano's Taxonomy!

Levels of Processing (or Learning) the Knowledge



Marzano's Taxonomy!

Levels of Processing (or Learning) the Knowledge



Marzano's Taxonomy!

Uses for the Taxonomy

1. As a vehicle for designing and classifying educational objectives
2. As a framework for designing assessments
3. As a framework for redesigning state & district-level standards
4. As a framework for curriculum design
5. As a framework for a thinking skills curriculum

THE TAXONOMY AND THE SCALE

Your Topic of Study _____

3

Complex
Knowledge
for this topic

*Comprehending
Knowledge*

2

Simple,
but Important
Knowledge
for this topic

*Retrieving
Knowledge*

Your Topic of Study _____

3

Complex
Knowledge
for this topic

*Analyzing
Knowledge*

2

Simple,
but Important
Knowledge
for this topic

*Comprehending
Knowledge*

Your Topic of Study _____

3

Complex
Knowledge
for this topic

*Using
Knowledge*

2

Simple,
but Important
Knowledge
for this topic

*Comprehending
Knowledge*

Your Topic of Study _____

3

Complex
Knowledge
for this topic

*Comprehending
Knowledge*

- *Integrating*
- *Symbolizing*

2

Simple,
but Important
Knowledge
for this topic

*Retrieving
Knowledge*

- *Recognizing*
- *Recalling*
- *Executing*

Your Topic of Study _____

3

Complex
Knowledge
for this topic

*Analyzing
Knowledge*

- Similarities/Differences
- Classifying
- Analyzing Errors
- Generalizing (Induction)
- Specifying (Deduction)

2

Simple,
but Important
Knowledge
for this topic

*Comprehending
Knowledge*

- Integrating
- Symbolizing

Your Topic of Study _____

3

Complex
Knowledge
for this topic

*Using
Knowledge*

- *Decision Making*
- *Problem-Solving*
- *Experimental Inquiry*
- *Investigation*

2

Simple,
but Important
Knowledge
for this topic

*Comprehending
Knowledge*

- *Integrating*
- *Symbolizing*

THE SCORING SCALE and MARZANO'S TAXONOMY (Some General Scenarios)

4	Inferences Applications <i>beyond what was explicitly taught</i>	<i>Analyzing Knowledge</i>	<i>Using Knowledge</i>	<i>Using Knowledge</i>
3	Complex <i>explicitly taught</i>	<i>Comprehending Knowledge</i>	<i>Analyzing Knowledge</i>	<i>Using Knowledge</i>
2	Simple, but Important <i>explicitly taught</i>	<i>Retrieving Knowledge</i>	<i>Comprehending Knowledge</i>	<i>Comprehending Knowledge</i>

THE SCORING SCALE and MARZANO'S TAXONOMY (Some General Scenarios)

4	Inferences Applications <i>beyond what was explicitly taught</i>	<i>Analyzing</i> <ul style="list-style-type: none"> • Specifying • Generalizing • Error Analysis • Classifying • Matching 	<i>Using</i> <ul style="list-style-type: none"> • Investigating • Experimenting • Problem Solving • Decision Making 	<i>Using</i> <ul style="list-style-type: none"> • Investigating • Experimenting • Problem Solving • Decision Making
3	Complex <i>explicitly taught</i>	<i>Comprehending</i> <ul style="list-style-type: none"> • Symbolizing • Integrating 	<i>Analyzing</i> <ul style="list-style-type: none"> • Specifying • Generalizing • Error Analysis • Classifying • Matching 	<i>Using</i> <ul style="list-style-type: none"> • Investigating • Experimenting • Problem Solving • Decision Making
2	Simple, but Important <i>explicitly taught</i>	<i>Retrieving</i> <ul style="list-style-type: none"> • Recalling • Recognizing 	<i>Comprehending</i> <ul style="list-style-type: none"> • Symbolizing • Integrating 	<i>Comprehending</i> <ul style="list-style-type: none"> • Symbolizing • Integrating

THE TAXONOMY AND VERBS

LEVEL OF PROCESSING: *Using Knowledge*

REASONING PROCESS	CUE TERMS & PHRASES	EXAMPLE TASKS
Investigation	<ul style="list-style-type: none">• Investigate• Research• Find out about• Take a position on• What are the defining features of• How did this happen• Why did this happen, what would have happen if	<i>Research what might happen to the polar ice caps if the temperature of the earth rose 5 degrees</i>
Experimenting	<ul style="list-style-type: none">• Generate and test• Test the idea that• What would happen if• How would you test it• How would you determine if• How can this be explained• Based on this explanation what can be predicted	<i>Generate and test a hypothesis about the growth of plants in various medium</i>

LEVEL OF PROCESSING: *Using Knowledge*

REASONING PROCESS	CUE TERMS & PHRASES	EXAMPLE TASKS
Problem Solving	<ul style="list-style-type: none">• Solve• How would you overcome• Adapt• Develop a strategy to• Figure out a way to• How will you reach your goal under these conditions	<i>Determine the best strategy for accomplishing peace in the world</i>
Decision Making	<ul style="list-style-type: none">• Decide• Select the best among the following alternatives,• Which among the following would be best• What is the best way• Which of these is most suitable	<i>Choose the best site for a new airport from 3 alternatives. Explain your decision.</i>

LEVEL OF PROCESSING: *Analyzing Knowledge*

REASONING PROCESS	CUE TERMS & PHRASES	EXAMPLE TASKS
Specifying (Deductive)	<ul style="list-style-type: none">• <i>Make and defend</i>• <i>Specify</i>• <i>Predict</i>• <i>Judge</i>• <i>Deduce</i>• <i>What would have to happen</i>• <i>Develop an argument for</i>• <i>Under what conditions</i>	<i>Predict the impact of a 5 degree change in temperature on the Earth</i>
Generalizing (Inductive)	<ul style="list-style-type: none">• <i>Generalize</i>• <i>What conclusions can be drawn</i>• <i>What references can be made</i>• <i>Create a generalization</i>• <i>Create a principle</i>• <i>Create a rule</i>• <i>Trace the development</i>• <i>Form conclusions</i>	<i>Based on what you know, why do humans build settlements where they do?</i>

LEVEL OF PROCESSING: *Analyzing Knowledge*

REASONING PROCESS	CUE TERMS & PHRASES	EXAMPLE TASKS
<i>Analyzing Errors</i>	<ul style="list-style-type: none"> • Analyze the errors in • Identify problems • Identify issues • Identify misunderstandings <ul style="list-style-type: none"> * Assess, critique * Diagnose * Evaluate, edit, revise 	<i>Examine candidate's campaign literature to find errors or over-generalizations</i>
<i>Classifying</i>	<ul style="list-style-type: none"> • Classify • Organize • Sort <ul style="list-style-type: none"> * Identify a broader category * Identify categories * Identify different types 	<i>Organize the following countries into 3 different regions</i>
<i>Matching</i>	<ul style="list-style-type: none"> • Categorize • Compare • Compare & contrast • Differentiate • Discriminate <ul style="list-style-type: none"> * Distinguish * Sort * Create an analogy * Create a metaphor 	<i>Compare and contrast the foreign policy of the U.S. under Presidents Clinton and Bush</i>

LEVEL OF PROCESSING: *Comprehending Knowledge*

REASONING PROCESS	CUE TERMS & PHRASES	EXAMPLE TASKS
Symbolizing	<ul style="list-style-type: none">• <i>Symbolize</i>• <i>Depict</i>• <i>Represent</i>• <i>Illustrate</i>• <i>Draw</i>• <i>Show</i>• <i>Use model</i>• <i>Diagram</i>• <i>Chart</i>	<i>Diagram the structure of the 3 branches of the U.S. government</i>
Integrating	<ul style="list-style-type: none">• <i>Describe how or why</i>• <i>Describe the key parts of</i>• <i>Describe the effects,</i>• <i>Describe the relationship between</i>• <i>Explain ways in which</i>• <i>Make connections between</i>• <i>Paraphrase, summarize</i>	<i>Summarize the main causes of the Civil War</i>

Where can the Curriculum Documents be found????

**rsu18.org/
dropbox**

CAPACITY MATRICES

BUILDING MY CAPACITY

CONTENT AREA:
STRAND:
MEASUREMENT TOPIC:

NAME:
LEVEL:
LEARNING FACILITATOR:

TEAM:
DATE STARTED:
DATE COMPLETED:

LEARNING TARGETS	ASSESSMENT ITEMS	MY DEMONSTRATIONS/EVIDENCE	TRACKING MY PROGRESS
LEVEL 4 LEARNING TARGETS			LEVEL 4 LEARNING TARGETS 4.0 Advanced
LEVEL 3 LEARNING TARGETS			LEVEL 3 LEARNING TARGETS 3.0 Proficient
LEVEL 2 LEARNING TARGETS			LEVEL 2 LEARNING TARGETS 2.0 Emerging
SUPPORTING LEARNING TARGETS <i>To meet the above Learning Targets, what else do I need to:</i> Know (terms, details) DK Understand (concepts, principles) DK Be skilled at (skills, processes) PK			SUPPORTING LEARNING TARGETS 1.0 Developing

CONTENT AREA:
STRAND:
MEASUREMENT TOPIC:

RESOURCES TO SUPPORT MY LEARNING

LEARNING TARGETS	ASSESSMENT ITEMS	T MINI LESSON	DIGITAL/PRINT	PEER/MENTOR
LEVEL 4 LEARNING TARGETS				
LEVEL 3 LEARNING TARGETS				
LEVEL 2 LEARNING TARGETS				
SUPPORTING LEARNING TARGETS <i>To meet the above Learning Targets, what else do I need to:</i> Know (terms, details) DK Understand (concepts, principles) DK Be skilled at (skills, processes) PK				

BUILDING MY CAPACITY

CONTENT AREA:

STRAND:

MEASUREMENT TOPIC: FRACTIONS, DECIMALS,
PERCENTS

MATH

NUMBER SENSE

NAME: Will Zima

LEVEL: 4

LEARNING

FACILITATOR: Mr. Perkins

TEAM: Downeast

DATE STARTED: Oct

8

DATE COMPLETED:

LEARNING TARGETS	ASSESSMENT ITEMS	MY DEMONSTRATIONS/ EVIDENCE	TRACKING MY PROGRESS	T
LEVEL 4 LEARNING TARGETS	<ul style="list-style-type: none"> Coach/help a classmate to move from Level 1 to Level 2 or Level 2 to Level 3 		LEVEL 4 LEARNING TARGETS 4.0 Advanced	✓
LEVEL 3 LEARNING TARGETS <ul style="list-style-type: none"> Understands addition and subtraction of fractions as joining and separating parts of the same whole Is skilled at addition and subtraction w/mixed numbers 	<ul style="list-style-type: none"> Decompose (and record) a fraction into a sum of fractions w/the same denominator in more than one way (Symbolize) Solve equations involving addition and subtraction of mixed numbers (Deductive) 		LEVEL 3 LEARNING TARGETS 3.0 Proficient	
LEVEL 2 LEARNING TARGETS <ul style="list-style-type: none"> Knows the steps for setting up addition and subtraction of fractions Knows the term: mixed number 	<ul style="list-style-type: none"> Explain the steps to adding and subtracting fractions (Integrate) Identify and give examples of mixed numbers (Recognize) 		LEVEL 2 LEARNING TARGETS 2.0 Emerging	
SUPPORTING LEARNING TARGETS <i>To meet the above Learning Targets, what else do I need to:</i> Know (terms, details) DK Understand (concepts, principles) DK Be skilled at (skills, processes) PK			SUPPORTING LEARNING TARGETS 1.0 Developing	

CONTENT AREA:
STRAND:
MEASUREMENT TOPIC:

RESOURCES TO SUPPORT MY LEARNING

LEARNING TARGETS	ASSESSMENT ITEMS	T MINI LESSON	DIGITAL/PRINT	PEER/MENTOR
LEVEL 4 LEARNING TARGETS	<ul style="list-style-type: none"> Coach/help a classmate to move from Level 1 to Level 2 or Level 2 to Level 3 			
LEVEL 3 LEARNING TARGETS	<ul style="list-style-type: none"> Decompose (and record) a fraction into a sum of fractions w/the same denominator in more than one way (Symbolize) Solve equations involving addition and subtraction of mixed numbers (Deductive) 			
LEVEL 2 LEARNING TARGETS	<ul style="list-style-type: none"> Explain the steps to adding and subtracting fractions (Integrate) Identify and give examples of mixed numbers (Recognize) 			
SUPPORTING LEARNING TARGETS <i>To meet the above Learning Targets, what else do I need to:</i> Know (terms, details) DK Understand (concepts, principles) DK Be skilled at (skills, processes) PK				

BUILDING MY CAPACITY

CONTENT AREA:
STRAND:
MEASUREMENT TOPIC:

NAME:
LEVEL:
LEARNING FACILITATOR:

TEAM:
DATE STARTED:
DATE COMPLETED:

LEARNING TARGETS	ASSESSMENT ITEMS	Developing	Emerging	Proficient	Advanced	MY DEMONSTRATIONS/ EVIDENCE	T
LEVEL 4 LEARNING TARGETS				4.0			✓
LEVEL 3 LEARNING TARGETS				3.0			
LEVEL 2 LEARNING TARGETS				2.0			
SUPPORTING LEARNING TARGETS <i>To meet the above Learning Targets, what else do I need to:</i>				1.0			
Know (terms, details) DK							
Understand (concepts, principles) DK							
Be skilled at (skills, processes) PK							

BUILDING MY CAPACITY

CONTENT AREA:
STRAND:
MEASUREMENT TOPIC:

NAME:
LEVEL:
LEARNING FACILITATOR:

TEAM:
DATE STARTED:
DATE COMPLETED:

LEARNING TARGETS	ASSESSMENT ITEMS	Developing	Emerging	Proficient	Advanced	MY DEMONSTRATIONS/ EVIDENCE	T
LEVEL 4 LEARNING TARGETS	<ul style="list-style-type: none"> Coach/help a classmate to move from Level 1 to Level 2 or Level 2 to Level 3 			4.0			✓
LEVEL 3 LEARNING TARGETS Understands addition/subtract.. of fractions as joining /separating parts of the same whole	<ul style="list-style-type: none"> Decompose(and record) a fraction into a sum of fractions w/the same denominator in more than one way (Symbolize) 			3.0			
Is skilled at addition and subtraction w/mixed numbers	<ul style="list-style-type: none"> Solve equations involving addition and subtraction of mixed numbers (Deductive) 						
LEVEL 2 LEARNING TARGETS				2.0			
<ul style="list-style-type: none"> Knows the steps for setting up addition and subtraction of fractions 	<ul style="list-style-type: none"> Explain the steps to adding and subtracting fractions (Integrate) 						
<ul style="list-style-type: none"> Knows the term: mixed number 	<ul style="list-style-type: none"> Identify/give examples of mixed numbers (Recognize) 						
SUPPORTING LEARNING TARGETS To meet the above Learning Targets, what else do I need to:				1.0			
Know (terms, details) DK							
Understand (concepts, principles) DK							
Be skilled at (skills, processes) PK							

CONTENT AREA:
STRAND:
MEASUREMENT TOPIC:

**RESOURCES TO
SUPPORT
MY LEARNING**

LEARNING TARGETS	ASSESSMENT ITEMS	T MINI LESSON	DIGITAL/PRINT	PEER/MENTOR
LEVEL 4 LEARNING TARGETS				
LEVEL 3 LEARNING TARGETS				
LEVEL 2 LEARNING TARGETS				
SUPPORTING LEARNING TARGETS <i>To meet the above Learning Targets, what else do I need to:</i> Know (terms, details) DK Understand (concepts, principles) DK Be skilled at (skills, processes) PK				

BUILDING MY CAPACITY

CONTENT AREA:
STRAND:
MEASUREMENT TOPIC:

NAME:
LEVEL:
LEARNING FACILITATOR:

TEAM:
DATE STARTED:
DATE COMPLETED:

LEARNING TARGETS	ASSESSMENT ITEMS	Developing	Emerging	Proficient	Advanced	MY DEMONSTRATIONS/EVIDENCE
LEVEL 4 LEARNING TARGETS				4.0		
LEVEL 3 LEARNING TARGETS				3.0		
LEVEL 2 LEARNING TARGETS				2.0		
SUPPORTING LEARNING TARGETS				1.0		
<i>To meet the above Learning Targets, what else do I need to:</i>						
Know (terms, details) DK						
Understand (concepts, principles) DK						
Be skilled at (skills, processes) PK						

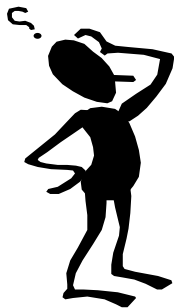
Let's stop...Reflect ' n Review



What's working?



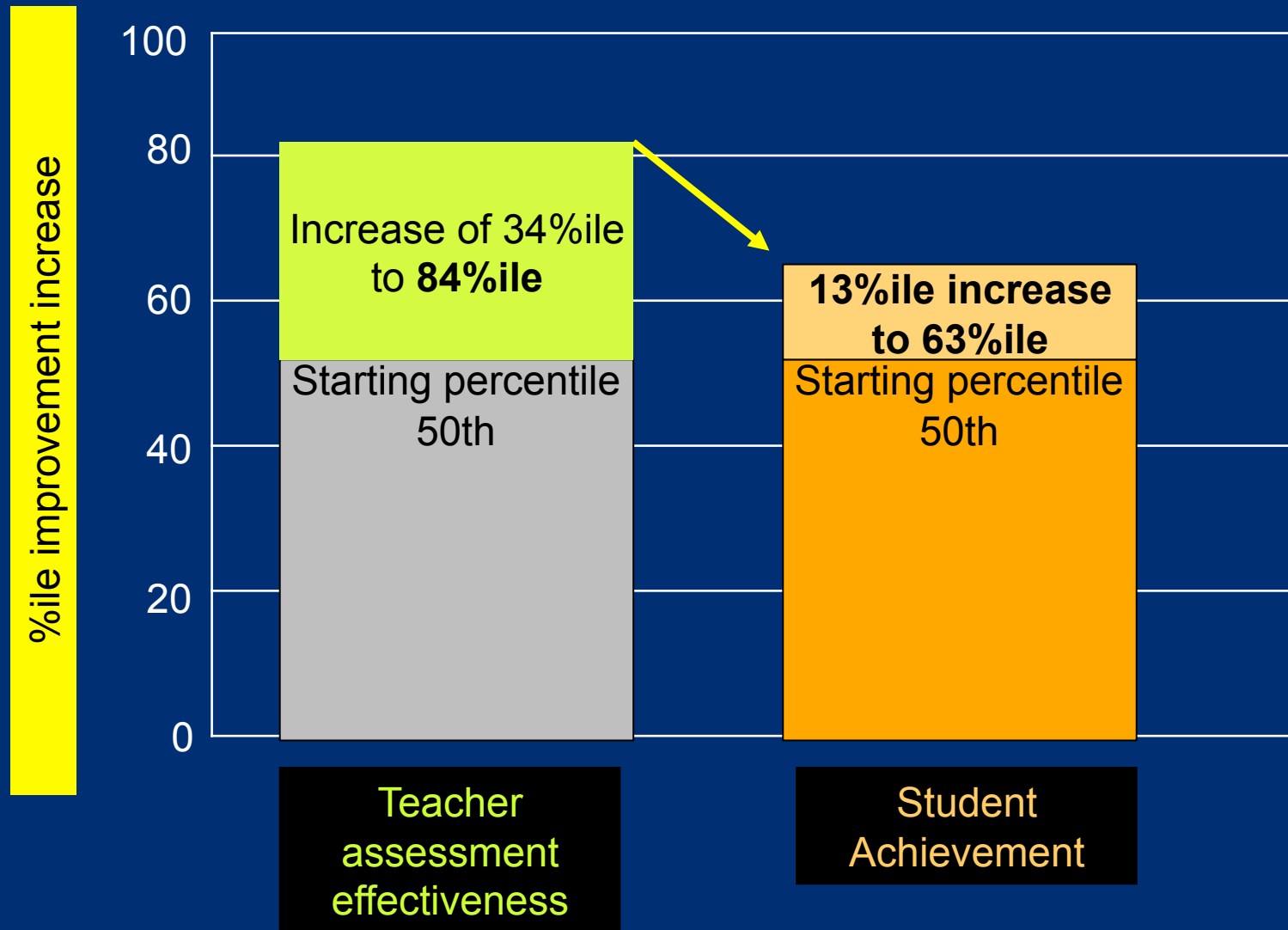
How are you feeling?



*What needs
clarification?*

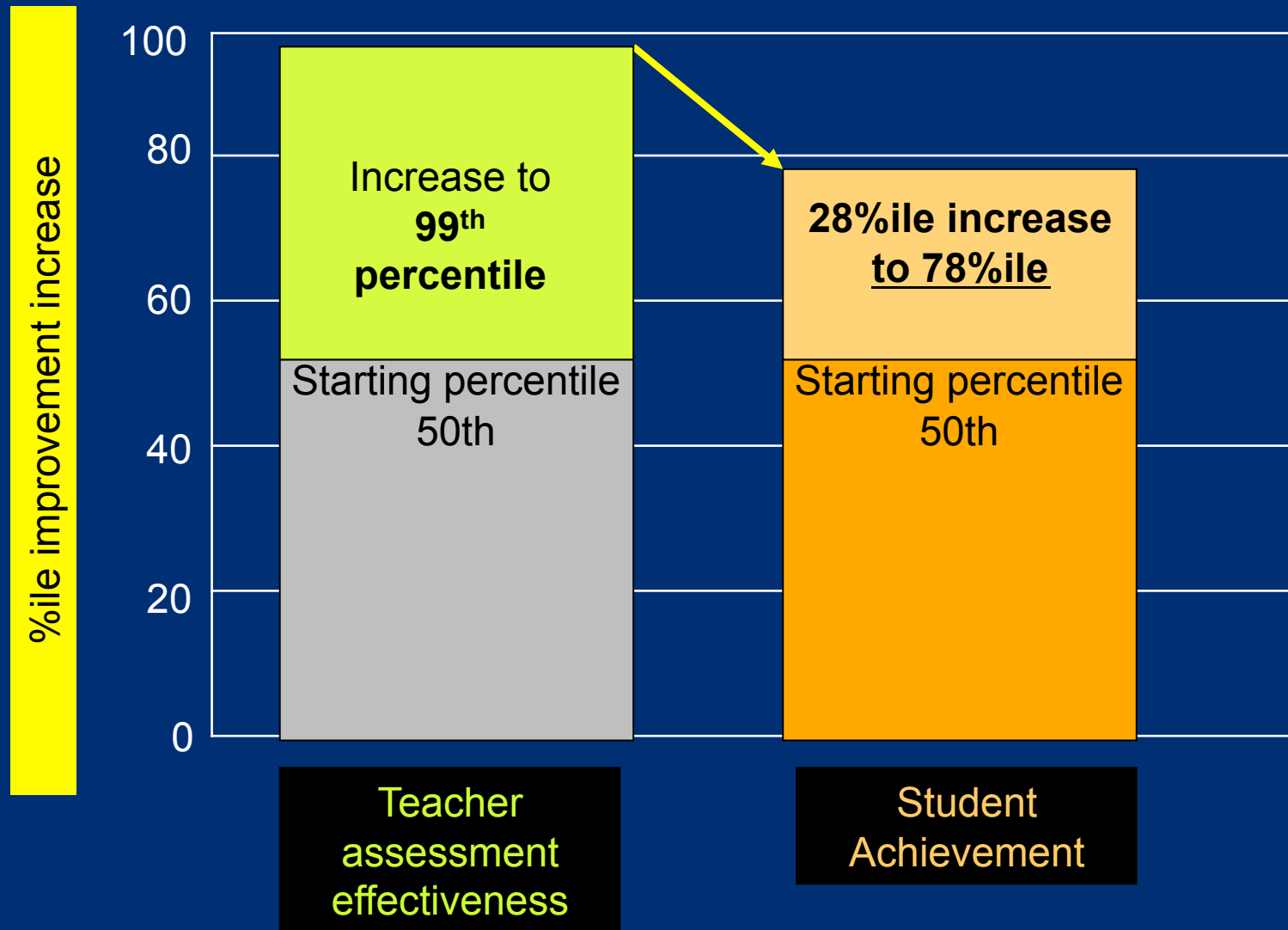
Impact of improving.....

classroom assessment effectiveness



Impact of improving.....

classroom assessment effectiveness



Which Assessment/Feedback works Best?

Bangert-Drowns, Kulik, Kulik, & Morgan, 1991

# of studies	Characteristic of Feedback from Classroom Assessment	Percentile Gain/Loss
6	Right/wrong	-3
39	Provide correct answers	8.5
30	Criteria understood by student vs. not understood	16
9	Explain	20
4	Student reassessed until correct	20

Which Assessment/Feedback works Best?

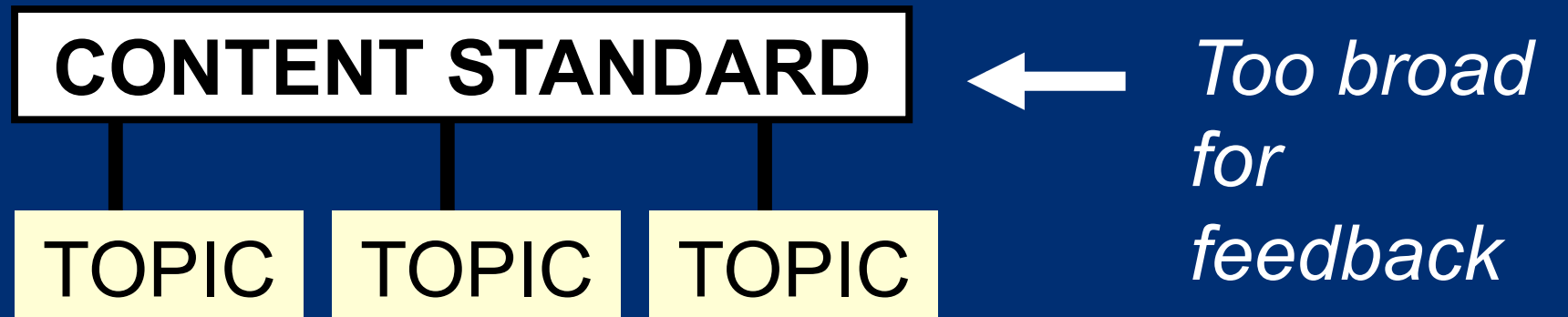
Fuchs & Fuchs 1988

# of studies	Characteristic of Feedback from Classroom Assessment	Percentile Gain/Loss
49	Evaluation by Rule	32
	logic)	

And the Winner is!

Uniform way of interpreting results of classroom assessments using a tight logic

Tracking/Reporting Students' Progress



- Benchmark
- Benchmark
- Benchmark
- Benchmark

← *Too many, not feasible*